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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,224	02/28/2002	Harry Tang	BS01-324	5083
36192	7590	09/07/2006	EXAMINER	
CANTOR COLBURN LLP - BELLSOUTH			WONG, WARNER	
55 GRIFFIN ROAD SOUTH			ART UNIT	
BLOOMFIELD, CT 06002			PAPER NUMBER	
			2616	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,224

Applicant(s)

TANG, HARRY

Examiner

Warner Wong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 24 is/are rejected.
- 7) ☒ Claim(s) 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities: it appears that the steps (a)-(c) is similar to the steps in claim 2. Hence, the steps enumeration should be changed to (g)-(i).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Constantinof (US 6,822,961).

Regarding claims 1 and 7, Constantinof describes a method/system for provisioning an end user with a virtual circuit in a virtual path (fig. 1, provisioning a SVC (virtual circuit) between a corresponding pair of ATM edge interfaces (virtual path)), comprising the steps of:

(a) [means for] receiving a work order requesting provisioning of the virtual circuit for the end user (fig. 3 & col. 6, lines 18-22, receiving a telephone (end) user connection (work order) request requiring a SVC (virtual circuit)), (b) determining a virtual circuit identifier of an available virtual circuit in the virtual

path (fig. 3 & col. 9, lines 25-28, call connection prompts a check of available SVC (virtual circuit) from the cache pool used by a designated pair of ATM edge interfaces (virtual path)), (c) determining whether there are less than a pre-determined number of available virtual circuits remaining in the virtual path (fig. 3 & col. 9, lines 25-28, when there are no SVC (virtual circuit) left from the cache pool used by a designated pair of ATM edge interfaces (virtual path)),

(d) [means for] provisioning the virtual circuit for the end user if there are more than the pre-determined number of available virtual circuits remaining in the virtual path (col. 7, lines 27-31, selecting (provisioning) the SVC (virtual circuit) for the call);

(e) [means for] determining whether to establish additional virtual circuits in the virtual path if there are less than the pre-determined number of available virtual circuits remaining in the virtual path (col. 9, lines 48-51 & 57-63, request for new SVC setup (additional virtual circuits) and adds the SVC to the cache);

Constantinof fails to explicitly describe:

(f) [means for] serializing requests for additional virtual circuits to establish additional virtual circuits in the virtual path if it is determined to establish additional virtual circuits in the virtual path.

However, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to modify the method of Constantinof and explicitly conduct serialized connection requests for additional circuits, since the existing description encompasses conducting individual incoming requests in order (col. 10, lines 7-12, when $n=1$ calls before checking cache pool size).

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The motivation for describing the connection requests being serialized is that it provides an algorithm to sensitively adapt to fluctuating traffic load between 2 edge interfaces by dynamically controlling the cache size (col. 10, lines 8-10 & 42-46).

Regarding claims 2 and 8, Constantinof further describes:

(g) [means for] creating a conditions table comprising a plurality of conditions, each condition having a corresponding action to be performed if the condition is satisfied, (h) consulting the conditions table when a new order to provision the end user with a virtual circuit is received to determine an applicable condition; and (i) performing the action corresponding to the applicable condition (col. 10, lines 7-16, combined algorithm (conditions table comprising a plurality of conditions) triggers check of cache size at every T interval and/or n calls).

Regarding claims 3 and 9, Constantinof describes:

the step of creating a set of serialization parameters that are used to serialize requests to establish additional virtual circuits in the virtual path (col. 11, lines 52-54, # waiting connection request, GOS or QOS as control (serialization) parameters in determining cache size, which may prompt additional SVCs for the cache pool).

Regarding claims 4 and 10, Constantinof describes the step of resubmitting an unsuccessful request to establish additional virtual circuits in the virtual path (col. 9, lines 33-38, recheck (resubmits) the cache for SVC again).

Regarding claims 6 and 12, Constantinof describes determining that a request to establish additional virtual circuits in the virtual path is unsuccessful if it fails (col. 9, lines 33-43, set of SVC is denied/failed).

Regarding claim 13, Constantinof describes a system for provisioning an end user with a virtual circuit in a virtual path, comprising:

(a) a connection management server that determines a virtual circuit identifier of an available virtual circuit connection in the virtual path and determines whether there are less than a pre-determined number of available virtual circuit connections remaining in the virtual path, wherein the connection management server can initiate a request for additional virtual circuit connections (col. 6, lines 18-22, call connection sub-process (server) determines availability of SVC (virtual circuit identifier) from the cache pool used by a designated pair of ATM edge interfaces (virtual path) and if no SVCs are available (less than a pre-determined number of available VC connections), request for new SVC setup (additional virtual circuits), see col. 9, lines 48-51 & 57-63);

(b) a conditions table comprising a plurality of serialization conditions that the connection management server consults prior to initiating a request for additional virtual circuit connections, the conditions in the condition table sufficient to serialize a plurality of requests made by the connection management server to establish additional virtual circuit connections (col. 10, lines 7-16, combined algorithm (conditions table comprising a plurality of conditions) triggers

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check of cache size at every T interval and/or n calls before the subsequent calls);

(c) a connection creation system that provisions additional virtual circuit connections in accordance with requests received from the connection management server (col. 9, lines 48-51 & 57-63, call connection sub-process (connection creation system) receives the new SVC (additional virtual circuit) from ATM network and adds the SVC to the cache (provisioning) for the request).

Constantinof fails to explicitly describe:

(f) serializing a plurality of requests for additional virtual circuits to establish additional virtual circuits in the virtual path.

However, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to understand that method of Constantinof infers and definitively encompasses serializing connection requests (col. 10, lines 7-12, when n=1 calls before checking cache pool size).

The motivation for describing the connection requests being serialized is that it provides an algorithm to sensitively adapt to fluctuating traffic load between 2 edge interfaces by dynamically controlling the cache size (col. 10, lines 8-10 & 42-46).

Regarding claim 14, Constantinof describes:

the connection management server determines the number of available virtual circuit connections remaining in the virtual path, and provisions an available virtual circuit connection for an end user in accordance with an order to provision a virtual circuit connection for the end user if the number of available

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virtual circuit connections remaining in the virtual path is greater than a pre-determined threshold (col. 9, lines 25-30, the call connection sub-process (server) provisions an SVC (virtual circuit) when available in cache (greater number of available virtual connections remaining) upon receipt of a [each] connection request, i.e. first come first serve (order of provisioning)).

Regarding claim 15, Constantinof describes:

the connection management server consults the conditions table if the number of available virtual circuit connections remaining in the virtual path is less than the pre-determined threshold (fig. 8 & , call connection sub-process (connection management server) will invoke (consult) the algorithm of updating cache size (conditions table) when there are no available cached SVCs (less than the pre-determined threshold).

Regarding claim 16, Constantinof describes:

the connection management server re-submits an unsuccessful request for provisioning of additional virtual circuit connections (col. 8, lines 33-38, the call connection sub-process (connection management server) rechecks (re-submits) for a SVC (virtual circuit connection).

3. Claims 5, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Constantinof as applied to claim 1 above, and further in view of Ohno (US 6,034,962).

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Regarding claims 5 and 11, Constantinof fails to describe the step of determining that the request is unsuccessful if it exceeds a pre-determined time threshold.

Ohno describes the step of determining that the request is unsuccessful if it exceeds a pre-determined time threshold (fig. 1, #116 & 118 & col. 9, lines 41-43, timeout 116 defines that the transmit request 102 is unsuccessful).

It would have been obvious to one with ordinary skill of art at the time of invention by applicant to modify a timeout process to determine that the transmission request is unsuccessful as in Ohno for the method/system of Constantinof.

The motivation for combining the teachings is that it provides an efficient communication between transmitting and receiving terminal sides while reducing the CPU usage (Ohno, col. 3, lines 28-33).

Regarding claim 17, Constantinof further describes:

the connection management server re-submits a request for provisioning of additional virtual circuit connections (col. 9, lines 33-38).

Constantinof fails to describe: a prior request for provisioning additional virtual circuit connections exceeds a pre-determined time.

Ohno describes: a prior request for provisioning additional virtual circuit connections exceeds a pre-determined time (fig. 1, #116 & 118 & col. 9, lines 41-43, timeout 116 defines that the transmit request 102 is unsuccessful).

It would have been obvious to one with ordinary skill of art at the time of invention by applicant to modify a timeout process to determine that the

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transmission request is unsuccessful as in Ohno for the method/system of Constantinof.

The motivation for combining the teachings is that it provides an efficient communication between transmitting and receiving terminal sides while reducing the CPU usage (Ohno, col. 3, lines 28-33).

4. Claim 18-20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Constantinof in view of Applicant's Admitted Prior Art, hereinafter termed as AAPA.

Regarding claim 18, Constantinof describes a method for serializing virtual connection requests in response to a request for provisioning of a virtual circuit connection for an end user in a virtual path, comprising the steps of:

(a) obtaining a virtual circuit identifier associated with a next available virtual circuit connection (col. 7, lines 27-31, selecting (obtaining) an available SVC (virtual circuit connection with identifier) from the cache);

(b) determining whether the virtual circuit identifier is close to an end of a range of virtual circuit identifiers that have been established (col. 9, lines 30-31, lack of SVCs available (end of a range of available virtual circuit identifiers) in the cached pool).

(c) provisioning the virtual circuit connection for the end user if the circuit identifier is not too close to a maximum value of the end of the range of virtual circuit identifiers (col. 9, lines 28-30, available SVC removed from cached & mapped to the connection 106 (provisioning)

(d) serializing sending of virtual circuit connection requests to request provisioning a plurality of additional virtual circuit connections having an associated range of virtual circuit identifiers.

Constantinof fails to explicitly describe:

serializing sending of virtual circuit connection requests to request provisioning a plurality of additional virtual circuit connections.

However, it would have been obvious to one with ordinary skill in the art at the time of invention by applicant to modify the method of Constantinof and explicitly conduct serialized connection requests for additional circuits, since the existing description encompasses conducting individual incoming requests in order (col. 10, lines 7-12, when $n=1$ calls before checking cache pool size).

The motivation for describing the connection requests being serialized is that it provides an algorithm to sensitively adapt to fluctuating traffic load between 2 edge interfaces by dynamically controlling the cache size (col. 10, lines 8-10 & 42-46).

Constantinof fails to describe:

sending of bulk virtual circuit connection to request provisioning a plurality of additional virtual circuit connections having an associated range of virtual circuit identifiers.

AAPA describes:

sending of bulk virtual circuit connection request to provision a plurality of additional virtual circuit connections having an associated range of virtual circuit identifiers (paragraphs 9-12).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to incorporate the operation of sending a bulk virtual circuit connection request for provisioning additional VC connections.

The motivation for combining the teaching is that it precludes the need to set up each virtual circuit connection individually (AAPA, paragraph 9).

Regarding claim 19, Constantinof describes that step (d) comprises:

(d.1) determining which conditions of a set of serialization conditions is applicable to a bulk virtual circuit connection request state; and (d.2) performing an action associated with the condition determined in step (d.1) (col. 9, lines 25-43, set of conditions (table) and actions to perform for the acquiring SVC (bulk virtual circuit connection request)).

Regarding claim 20, Constantinof describes:

step (d.2) comprising the step of performing one of sending the bulk virtual circuit connection request and not sending the bulk virtual circuit connection request (col. 9, lines 33-38, condition of rechecking the cache for SVC (sending the connection request) depends on outcome results of new SVC request)).

Regarding claim 24, Constantinof further describes the steps of:

(e) creating a conditions table having a plurality of conditions, each condition having a corresponding action to be performed if the condition is satisfied, (f) determining which one of the plurality of conditions applies, and (g) performing the action corresponding to the applicable condition (col. 9, lines 30-43, set of conditions (table) and actions to perform when cache is empty).

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Allowable Subject Matter

5. Claims 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Gummalla (US 6,999,414) and Waespe (US 6,865,180).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 6:30AM - 3:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
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